

# Introduced species are a major threat to marine biodiversity



## Rapid Assessment Surveys (RAS) help us track new species in estuaries

New species are appearing in Massachusetts waters



*Palaemon elegans*, a shrimp species from Europe, was seen for the first time in the US during the 2010 RAS at a site in Massachusetts. It is now found throughout New England.



Marinas are a prime sampling spot for the RAS because marine species are easy to access from the floating docks, and because boats are an easy way for new species to move among locations.

Experts identify native and non-native marine species



The RAS team includes scientists from all over the world. With their students they work long hours in the field and lab during the multi-day survey.

## Why it Matters

Invasive species cause, or are likely to cause, economic or environmental harm. Once a species is established in the marine environment, it is very hard to manage or remove.

Introduced species are brought to a new location by human activity and can cause harm to the environment, economy, or public health. Marine introduced species documented in New England mostly have arrived through shipping (ballast water or hull fouling), and aquaculture.



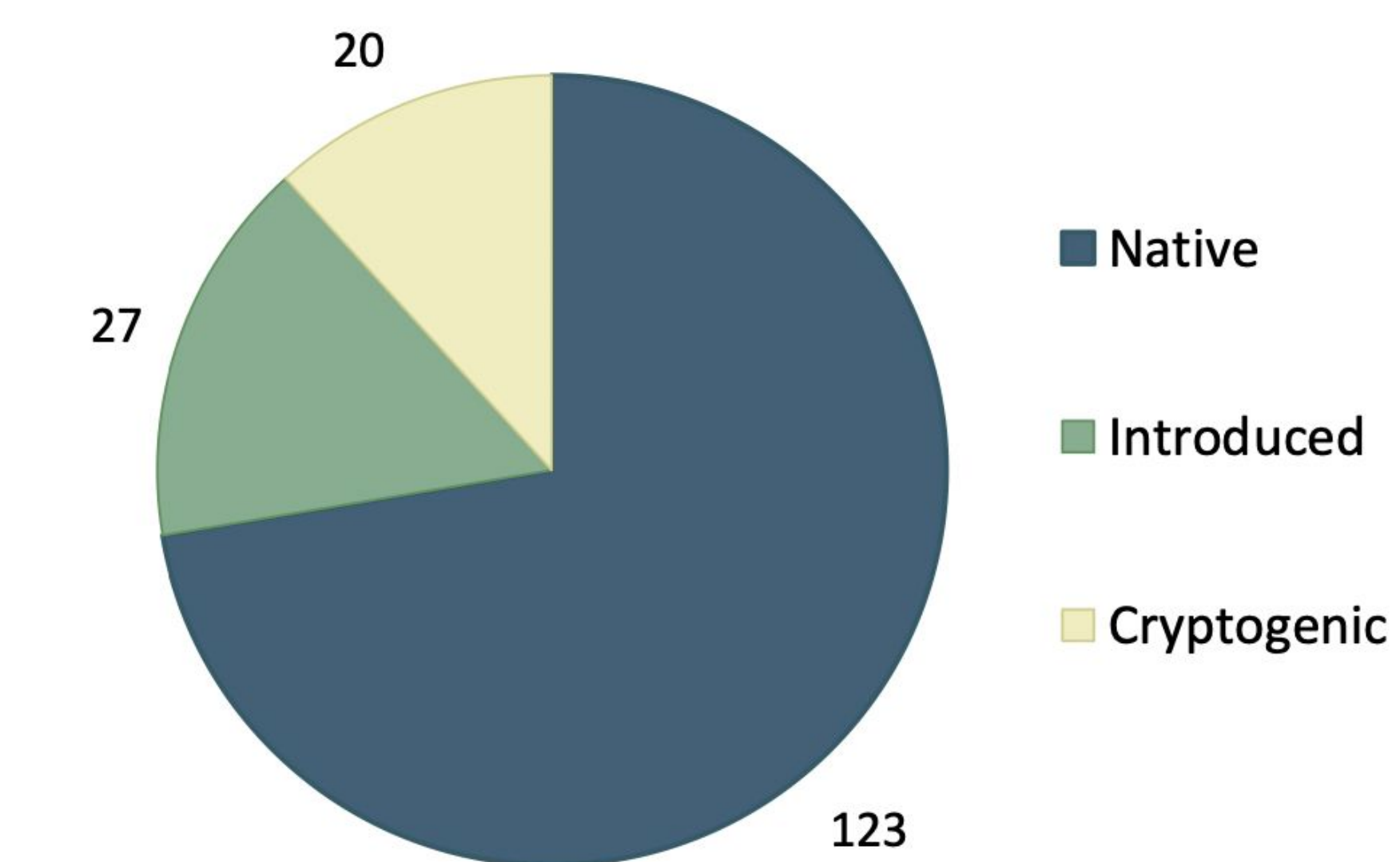
*Didemnum vexillum*, first detected in Maine in the early 1980's, has greatly expanded in range to all of New England.



*Grateloupia turuturu*, first recorded in Massachusetts during the 2007 RAS, was observed north of Boston for the first time for the survey during the 2018 RAS.

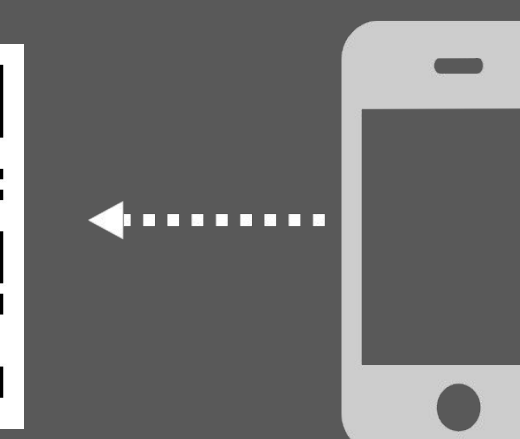
## Results from the most recent assessment, 2018

The sixth RAS survey took place in 2018. Investigations from Massachusetts to Maine found 27 introduced species and 20 cryptogenic species (those that have not yet been determined to be native or non-native).



## What You Can Do

Join MIMIC, a citizen science project keeping an eye on these introduced species. Find out more:



Take a picture to see the 2018 RAS report